

sub
B17

1. (Previously presented) A smart browser module comprising:
 - an application layer interface coupled to a protocol stack, said application layer interface operative to receive at least one data packet comprising at least a portion of a target web page;
 - a user interface for interacting with a user;
 - a multilevel search control interface;
 - a multilevel object factory coupled to receive a first input relating to said target web page and a second input from said multilevel search control interface, said multilevel object factory operative to specify a remote object agent that orchestrates a multilevel browser operation based upon said first and second inputs, whereby said remote object agent is exported from said web browser to execute on a network server external from said smart browser.
2. (Previously presented) The browser of Claim 1, wherein said user interface comprises a window display providing an interactive menu to a user.
3. (Previously presented) The browser of Claim 2, wherein said user window is a part of a windows based graphical user interface.
4. (Previously presented) The browser of Claim 1, where said user interface comprises a voice interface.
5. (Previously presented) The browser of Claim 1, wherein said multilevel browser operation corresponds to a multilevel "find in page" operation.
6. (Previously presented) A multilevel-search browser plug-in module for coupling to a host browser, whereby the host browser comprises a markup language parser, and a user interface for coupling to a user, and an application layer communications interface, said application layer interface operative to receive at least one data packet comprising at least a portion of a target web page the plug-in module comprising:
 - a multilevel search control interface;
 - a multilevel object factory coupled to receive a first input relating to said target web page and a second input from said multilevel search control interface, said multilevel

object factory operative to specify a remote object agent that orchestrates a multilevel browser operation based upon said first and second inputs, whereby said remote object agent is exported from said web browser to execute on a network server external from said smart browser.

7. (Previously presented) The plug-in module of Claim 6, wherein said plug-in module is embodied as Java™ code.

8. (Previously presented) The plug-in module of Claim 6, wherein said plug-in module is embodied as executable XML code.

9. (Previously presented) For use in a client browser, a method comprising the steps of:

obtaining application data from an application layer interface;
passing said information to a user via a user interface;
coupling a multilevel-search interface signal to a user;
accepting a parameter set via said multilevel-search interface, said parameter set comprising least one parameter defining a multilevel browser operation;
generating a remote agent object for execution on a remote network server,
whereby said remote agent object orchestrates the following acts:

- (i) accessing a first markup language document and scanning said document to determine a hyperlink contained therein;
- (ii) activating said hyperlink found in said step of accessing;
- (iii) retrieving at least a portion of a second markup document associated with said hyperlink; and
- (iv) comparing the contents of said at least a portion of said second markup document to at least a portion of said set parameter set.

10. (Previously presented) The method of Claim 9, whereby said remote agent object further orchestrates the following act:

comparing the contents of at least a portion of said first markup document to at least a portion of said set parameter set.

11. (Previously presented) The method of Claim 9, wherein said parameter set includes a character string and an indication of the number of levels to search.

12. (Previously presented) The method of Claim 9, wherein said parameter set includes a Boolean keyword expression and an indication of the number of levels to search.

13. (Previously presented) The method of Claim 9, wherein said client browser is hosted within a wireless mobile device and said parameter set includes information derived from an electronic positioning system.

14. (Previously presented) The method of Claim 9, whereby said remote agent object further orchestrates the following act:

evaluating the results of the comparison and when said step of comparing reveals a match, coupling information related thereto to the user, and when said step of comparing does not yield a match, checking to see if the search is complete, and if it is not, accessing a next hyperlink and repeating the steps of activating, retrieving, and comparing, and evaluating.

15. (Previously presented) The method of Claim 9, wherein said step of evaluating further comprises the steps of:

when said information has been coupled to said user, awaiting a find-next signal, and when said find-next signal is received, checking to see if the search is complete, and if it is not, accessing a next hyperlink and repeating the steps of activating, retrieving, and comparing, and evaluating.

16. (Previously presented) The method of Claim 9, wherein said parameter set includes a Boolean keyword expression, an indication of the number of levels to search, and an indication to continue the search on a designated-next-linked page.

17. (Previously presented) The method of Claim 9, wherein said hyperlink points to a metadata description of a web resource and said step of accessing involves accessing a file containing metadata relating to said resource.

18. The method of Claim 9, wherein said second markup document comprises a metadata description, said metadata description being described using a resource description framework (RDF)-based language.

19. (Previously presented) In an intelligent client, a method of seeking information in an information network, the method comprising the steps of:

accessing a web page via said network connection using a client-server transaction;

presenting said web page to a user;

receiving a set of one or more multilevel search parameters to define a multilevel browsing operation over a graph of hyperlinks reachable from said web page in N hops, where N is a positive integer;

specifying in said intelligent client a remote agent object, said remote agent object operative to orchestrate the implementation of said multilevel browsing operation from a remote network node;

dispatching said remote agent object to a remote server for execution;

whereby said remote agent object causes said multilevel browser function to be performed at least partially in said remote server.

20. (Previously presented) The method of Claim 19, wherein remote agent object is represented as Java bytecodes, executes at least partially in an agent sandbox, and uses a remote method invocation based distributed object protocol to communicate with said intelligent client.

(see next page)